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6 Attorney for Protestants Save the California Delta Alliance, et al.

7 **BEFORE THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD**

9 **IN RE CALIFORNIA WATERFIX**
10 **CALIFORNIA DEPARTMENT OF**
11 **WATER RESOURCES AND U.S.**
12 **BUREAU OF RECLAMATION**
13 **PETITION FOR CHANGES IN**
14 **WATER RIGHTS, POINTS OF**
15 **DIVERSION/RE-DIVERSION**

PROTESTANT SAVE THE CALIFORNIA
DELTA ALLIANCE, ET AL.'s WRITTEN
TESTIMONY OF RUNE STORESUND

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1 I, Rune Storesund do hereby declare:

2 Based on my review of the available information, it is my opinion that the extensive amount
3 of impact pile driving currently proposed for the California WaterFix Project intake structures is not
4 necessary. Alternative techniques, with dramatically lower vibration and noise levels, such as
5 drilled piers (or Cast in Drilled Hole, CIDH), deep soil mixing, or jet grouting are all plausible and
6 feasible techniques to provide a suitable foundation for the proposed intake structures and
7 associated features. No evidence has been presented that precludes the use of these lower
8 vibration/lower noise techniques for construction of the California Water Fix inlet structures.

9 In reaching my opinion, I conferred with Mr. Peter Faust of Malcolm Drilling Company.
10 Malcolm Drilling has a great deal of experience installing deep foundations. Mr. Faust
11 recommended the use of CFA piles rather than driven piles. A letter from Mr. Faust, which I
12 considered in reaching my opinion, is included as Exhibit SCDA-127¹. Attached to the letter is
13 Malcolm Drilling’s deep foundation brochure, which explains the use of CFA piles and other
14 vibration free installation technology. Malcolm quoted a budget price of \$250 per lineal foot for the
15 installation of CFA piles on the WaterFix Project. I believe that DWR should find that price
16 attractive compared to the cost of driven 42-inch steel piles, without the noise and community
17 disturbance. CFA piles do not require the use of casing as the concrete is placed in the excavated
18 hole as the auger is removed after it has reached its target depth. A reinforced rebar cage is then
19 immediately lowered into the fresh concrete, thus creating a reinforced concrete pier. Mr. Faust
20 expressed confidence that Malcolm could provide a “cost-effective, non-impact system of pile
21 installation” and said that “Malcolm Drilling would be interested in performing the pile installation
22 for this project.” (SCDA-127, p. 2.)

23 I would recommend that DWR contact Malcolm Drilling. Malcolm is a very reliable
24 contractor with an excellent safety record. I have personally worked with Malcolm on a number of
25 projects and can attest to the quality work they provide. There are a number of other qualified deep
26 foundation contractors who are also capable of installing drilled piers.

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28 ¹ SCDA-127 is a true and correct copy of Mr. Peter Faust from Malcolm Drilling Company’s Letter to Mr. Rune Storesund, November 27, 2017.

1 In my opinion, there is no reason why the State Water Resources Control Board should not
2 impose a condition on any permit for the Project, requiring that non-impact methods of pile
3 installation be used. The Conceptual Engineering Report (submitted to USFWS to render their
4 Biological Opinion) specifically calls out for use of steel cased drilled piers (“Intake Structure
5 Typical Section,” Sheet No. CCO-M-3017IT). There is no delineation of driven piles. I would be
6 happy to meet informally with DWR’s design team to help transition the project from driven piles
7 to a more community friendly approach, including cooperatively working out permit conditions that
8 would require use of non-impact techniques.

9 10 II. MATERIALS REVIEWED.

11 The following documents were reviewed and are the basis of my opinion:

- 12 1. ICF International. 2016. Biological Assessment for the California WaterFix. July.
13 (ICF 00237.15.) Sacramento, CA. Prepared for United States Department of the
14 Interior, Bureau of Reclamation, Sacramento, CA.
- 15 2. California Department of Water Resources (DWR). 2015. Delta Habitat
16 Conservation & Conveyance Program (DHCCP), Conceptual Engineering Report,
17 Modified Pipeline/Tunnel Option – Clifton Court Forebay Pumping Plant, Volume 1
18 – Conceptual Engineering Report. Final Draft: April 1, 2015.
- 19 3. California Department of Water Resources (DWR). 2015. Delta Habitat
20 Conservation & Conveyance Program (DHCCP), Conceptual Engineering Report,
21 Modified Pipeline/Tunnel Option – Clifton Court Forebay Pumping Plant, Volume 2
22 – Conceptual Engineering Report Drawings. Final Draft: April 1, 2015.
- 23 4. U.S. Fish and Wildlife Service. 2017. Biological Opinion for the California
24 WaterFix. Service File No. 08FBDT00-2016-F-0247. San Francisco Bay-Delta Fish
25 and Wildlife Office, Sacramento, California.
- 26 5. California Department of Water Resources and U.S. Bureau of Reclamation. 2016.
27 Final Environmental Impact Report/Environmental Impact Statement for the Bay
28 Delta Conservation Plan/California WaterFix—Volume I. Final EIR/EIS for the

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BDCP/California WaterFix. December. (DOE/EIS-0515.) (ICF 00139.14.) Prepared
by ICF International, Sacramento, CA.

Executed this 30th day of 2017 at Kensington, California,

Rune Storesund 

